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NORTHEASTERN FOREST EXPERIMENT STATION

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Results Of Small Woodlot Cuttings

On Penobscot Experimental Forest, 1953 and 1954

In 1951 foresters at the Penobscot Experimental Forest near Bangor, Maine, began a demonstration of the financial returns that can be realized through careful management of small forest properties. Light improvement cuts made in 1951 and 1952 on a moderately stocked 47-acre tract (Compartment 2) yielded gross incomes of $623.74 and $191.81 respectively. Another well-stocked 55-acre tract (Compartment 7) yielded $558.82 for a single harvest in 1952.[1] This report describes the benefits from subsequent harvests of the same woodlands.

The Compartment 2 cutting salvaged more than 23 cords of rough pulpwood from balsam fir trees that had died or had started to die back in the top since the previous year's cut. The cutting, which was done in the winter, covered about 23 acres of the 47-acre compartment.

On Compartment 7 the second cutting salvaged more than 14 cords of rough pulpwood from sound dead and low-vigor balsam fir trees on 26 acres of the 55-acre compartment. Felling and limbing was done in early spring, and the wood was put on the roadside the following winter.

The third cutting on Compartment 7 took about 35 cords of low-vigor and poorly formed hardwoods, hemlock, spruce, fir, and aspen (popple) from the remaining 29 acres. Also included were the red maple trees 14 inches d.b.h. and larger. In this region red maple is considered a poor species because much of it becomes defective before reaching large size. A size limitation on hardwood pulpwood bolts in the local market also makes it inadvisable to try to grow red maple to a larger size.

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[1]Hart, A. C. Small forest management in the spruce-fir region. Northeast. Forest Expt. Sta., Forest Res. Note 21. 4 pp. 1953.

Table 1.--Outlays and returns from three improvement cuttings

Item	Compartment 2	Compartment 7	
	1953	1953	1954
Outlays			
Chemical debarking ... man-hours..	--	--	32.0
Felling and limbing .. man-hours..	90.5	127.5	149.5
Skidding ..... man-hours..	99.0	83.5	102.0
tractor-hours..	41.5	33.0	55.5
Bucking and piling ... man-hours..	47.5	25.5	67.0
Total outlay ..... man-hours..	237.0	236.5	350.5
tractor-hours..	41.5	33.0	55.5
Receipts			
Volume sold ..... cords..	23.64	14.62	33.97
Average roadside price per cord ..... dollars..	$ 12.50	$ 12.50	$ 15.55
Total value of sale .... dollars..	$295.50	$182.75	$528.11

All trees in this cutting, except the balsam fir, were girdled at the base and brush-treated with sodium arsenite in June 1953 for chemical debarking. The trees were cut and limbed in June 1954 and skidded to the truck road in the fall. When the wood was bucked and piled, about 1¼ cords (3½%) of the 35¼ cords were in defective sticks that were culled.

On both compartments the work was done by a 2- or 3-man crew using a 1-man chain saw and a small gasoline crawler tractor with winch and logging sulky. The felled trees were skidded in tree lengths to bucking yards where they were cut up with the chain saw, and the bolts were piled at the roadside. Weather conditions were favorable during the operations.

Table 1 shows the direct outlays and receipts from these cuttings, assuming the wood was sold at the roadside. The high outlay on Compartment 7 in 1953 was due to the very light cut (about ½ cord per acre). The total man-hour outlay was the same as on Compartment 2, where 1 cord per acre was removed. This indicates that a cut that will yield less than a cord of wood per acre may not be worth while.

If the woodlot owners had used their own labor, tractors, and chain saws, their only added cash outlays would have been for gasoline, oil, and repairs. For the equipment used on the experimental forest, these costs have averaged $0.90 per hour for the tractor and $0.71 per cord for the chain saw. In such cases the owners' cash income from their woodlots would have been $241, $142, and $454 for the three cuttings.

--ARTHUR C. HART, Research Forester
Penobscot Research Center
Northeastern Forest Experiment Station
Forest Service, U.S. Dept. Agriculture

AGRICULTURE-FOREST SERVICE-UPPER DARBY